

REMARKS

Applicant cancelled claims 2, 4, 6-18, 132, 134, 136, 210-212, 216-218, 220-227, 249, 251, and 256-258; amended claims 1, 19, 20, 27, 45, 48, 56, 131, 133, 137, 141, 207-209, 213-215, 219, 234, and 255; and added new claims 259-284 to further define applicant's claimed invention. The amendment to claims 1, 19, and 20 is supported by the specification at least on page 13, line 5 to page 14, line 11 and Fig. 13. The amendment to claims 27, 141, and 234 is supported at least by Fig. 2. The amendment to claim 56 is supported at least by Fig. 20. The amendment to claims 131, 133, and 137 is supported at least by claims 131, 133, and 137, respectively, as originally filed. The amendment to claims 207, 213, and 255 is supported at least by Fig. 14. The amendment to claims 208, 209, 214, and 215 is supported in the specification at least on page 14, lines 2-4. The amendment to claim 219 is supported by the specification at least on page 13, line 5 to page 14, line 11 and Fig. 13. New claims 259 and 277 are supported at least by claim 1 as originally filed. New claims 260-262 are supported at least by claims 6-8 as originally filed. New claims 263, 264, 271, and 276 are supported at least by Fig. 13. New claims 265-269 are supported at least by claims 12-14, 17, and 18, respectively, as originally filed. New claims 270 and 274 are each supported at least by Figs. 12 and 15. New claim 272 is supported at least by claim 131 as originally filed. New claim 273 is supported at least by claim 12 as originally filed. New claim 275 is supported at least by claim 7 as originally filed and Fig. 13. New claims 278-284 are supported at least by claims 7, 8, 12-14, 17, and 18 as originally filed. No new matter has been added. New claims 259-284 read on species 3, Figs. 12-15.

Applicant also amended the drawings to include new Figs. 1A-1C, 12B, and 14A-C. New Fig. 1A is supported at least by Fig. 15 of U.S. Patent No. 5,593,409, which is incorporated by reference in the specification on page 7, lines 1 and 2. New Fig. 1B is supported at least by claim 25 as originally filed. New Fig. 1C is supported at least by claim 45 as originally filed. New Fig. 12B is supported at least by claim 131 as originally filed and Fig. 12A. New Figs. 14A and 14B is supported at least by claim 18 as

originally filed. New Fig. 14C is supported in the specification at least on page 4, lines 20 and 21. No new matter has been added.

In the Office Action, the Examiner rejected claims 1, 3, 5-15, 131, 133, 135-145, and 203-258 under 35 U.S.C. § 112, second paragraph as being indefinite. In particular, the Examiner objected to the phrase "bone engaging structure" in independent claims 1, 131, and 219. Applicant amended the claims to recite the phrase "surface projections" instead of "bone engaging structures."

The Examiner also objected to the terminology used in independent claim 131 to describe the orientation of the surface projections. Applicant amended claim 131 to recite a "right facet" and a "left facet" in place of a "forward facet" and a "rearward facet," respectively. As amended in claim 131, the right and left facets face the right and left sides, respectively, of the implant. Applicant submits that claims 1, 3, 5-15, 131, 133, 135-145, and 203-258 are definite.

The Examiner objected to the drawings under 37 C.F.R. § 1.83(a) as not showing every feature of the invention specified in the claims. In particular, the Examiner contended that the subject matter of claims 6, 8, 9-13, 15, 18, 21, and 131 were not illustrated. Applicant submits that one of ordinary skill in the art would understand the subject matter of the claims without the necessity of drawings. Nonetheless, in order to expedite prosecution, Applicant amended the drawings to include new Figs. 1A-C, 12B, and 14A-C, which show examples of an implant with upper and lower surfaces that are at least in part arcuate (claim 21); an implant where the leading end, trailing end, and sides form a circle (claim 25); an implant that is a motion preserving device (claim 45); an implant having a cap (claim 47); an implant having a right facet that has a longer length and a slope that is less steep than the slope of a left facet (claim 131); a U-shaped groove and a box-shaped groove (claim 269); and spaced apart surface projections (claim 265).

Applicant respectfully disagrees with the Examiner's contention with respect to the subject matter of claims 6 and 8 not being illustrated. Claim 6 recites opposed facets intersecting one another. The subject matter of claim 6 is found at least in Fig. 15, which shows side facets 332, 334 intersecting to form a peak 336. Claim 8 recites

that the peaks of at least two surface projections are aligned along lines that are "at least one of perpendicular, parallel, and diagonal" to the mid-longitudinal axis of the implant. An example of the peaks of at least two surface projections being aligned along perpendicular, parallel, or diagonal lines is found in Fig. 12A. In particular, peaks 326 are aligned along lines that are perpendicular to the mid-longitudinal axis (e.g., from the top to the bottom of the figure). Peaks 326 are also aligned parallel to the mid-longitudinal axis (e.g., from the left side to the right side of the figure). Peaks 326 are also aligned along a diagonal (e.g., from the right-top corner to the left-bottom corner of the figure). Accordingly, Applicant submits that the subject matter of claims 6 and 8 is illustrated in the drawings.

For claims 9-11 and 15, Applicant cancelled claims 9-11 and 15 in view of the amendment to claim 1 and the species elected in response to the Restriction Requirement of October 28, 2002.

For claims 12 and 13, Applicant added new Fig. 14C, which shows an example of surface projections with adjacent side facets of adjacent surface projections that are spaced apart to define a groove therebetween, and a plurality of surface projections being spaced apart to form a plurality of grooves therebetween.

For claim 21, Applicant added new Fig. 1A, which shows an example of an implant having upper and lower surface that are at least in part arcuate.

For claim 131, Applicant added new Fig. 12B, which shows an example of a left facet facing a left side of the implant and a right facet facing the right side of the implant.

Several of the elected claims include a recitation of a material or composition, or a combination of a material or composition (see, for example, claim 28). MPEP § 601.01(f) states that situations in which drawings are usually not considered necessary for the understanding of the invention under 35 U.S.C. 113 (first sentence) are: (A) Coated articles or products...[and] (B) Articles made from a particular material or composition..." (page 600-14, column 2 (August 2001)). Thus, Applicant submits that the claims that recite a material or composition, or combination thereof, do not require illustration.

It is submitted that the objection to the drawings under 37 C.F.R. § 1.83(a) has been overcome.

The Examiner rejected claims 1, 3, 5-15, 17-51, 131, 133, 135-145, and 303-258 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,482,233 to Aebi et al. Independent claim 1 as now amended recites an implant having a plurality of surface projections, at least a first and a second of the surface projections each having at least one forward facing facet and at least one rearward facing facet, "at least a portion of said rearward facet of said first surface projection overlying a portion of said forward facet of said second surface projection."

Aebi et al. teach an implant 10 having a plurality of spikes 28. (Aebi et al., col. 4, lines 53-54 and Figs. 1 and 6). Aebi et al. do not teach or suggest an implant having a plurality of surface projections as recited in independent claim 1.

Independent claim 131 as now amended recites an implant having a plurality of surface projections, at least a first and a second of the surface projections each having "at least one facet with the perimeter having at least a first and a second portion arranged to form an included angle greater than 90 degrees between said first and second portions." All of the facets taught by Aebi et al. have included angles of 90 degrees or less. (See, e.g., Aebi et al., Figs. 4, 6, and 7). Independent claim 131 also recites that the first and second surface projections each have "at least one right facet directed at least in part toward said right side and at least one left facet directed at least in part toward said left side, each of said right and left facets having a length and a slope, the length of said right facet being longer than the length of said left facet, the slope of said left facet being steeper than the slope of said right facet." Aebi et al. teach that "in the transverse direction, as shown in Fig. 7, the spikes are arranged in a regular "V" shape with each side of the spikes being at about the same angle as the other side." (Aebi et al., col. 4, lines 25-28). Aebi et al. do not teach or suggest an implant having a plurality of surface projections as recited in independent claim 131.

Independent claim 219 recites an implant having a plurality of surface projections, at least a first and a second of the surface projections each having "an included angle between said rearward facet and the base greater than 90 degrees

relative to at least one of said upper and lower surfaces of said implant." All of the facets taught by Aebi et al. have included angles of 90 degrees or less. (See, e.g., Aebi et al., Figs. 4, 6, and 7). Aebi et al. do not teach or suggest an implant having a plurality of surface projections as recited in independent claim 219.

Accordingly, Applicant submits that independent claims 1, 131, and 219 are allowable over the cited art and that dependent claims 3, 5-15, 133, 135-145, and 203-218, and 220-284 dependent from one of independent claims 1, 131, 219, or claims dependent therefrom are allowable at least due to their dependency from an allowable independent claim.

In view of the foregoing remarks, it is respectfully submitted that the claims, as amended, are patentable. Therefore, it is requested that the Examiner reconsider the outstanding rejections in view of the preceding comments. Issuance of a timely Notice of Allowance of the claims is earnestly solicited.

To the extent any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this reply, such extension is hereby respectfully requested. If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 50-1066.

Respectfully submitted,

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